SECTION V
ONLY PRACTICABLE ALTERNATIVE FINDING, PROTECTION OF WETLANDS

Presidential Executive Order 11990, "Protection of Wetlands" issued May 24, 1977, directs federal agencies ". . . to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative . . ." This section sets forth the basis for a finding that there is no practicable alternative to the construction of STH 26 improvements in wetlands and that the highway proposal includes all practicable measures to minimize harm to these resources.

The Clean Water Act's Section 404(b)(1) "Guidelines for Specification of Disposal Sites for Dredged or Fill Material" (40 CFR Part 230) administered by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers also addresses determining the most practicable alternative for proposed actions that involve the discharge of dredged or fill material into aquatic ecosystems including wetlands. The guidelines are premised on the mandate that dredged or fill materials should not be discharged into aquatic ecosystems including wetland unless it can be demonstrated that there are no practicable alternatives to such discharge, that such discharge will not have unacceptable adverse impacts either individually or in combination with known or probable impacts of other activities, and that all practicable measures to minimize adverse effects are undertaken.

5.1 REASONABLE ALTERNATIVES

As discussed in Section II, the alternative development process included a scoping process and preliminary development of a broad range of alternatives. Alternatives that were not feasible and reasonable were dismissed. Detailed study was then done for a range of reasonable alternatives along the project corridor. The reasonable alternatives are described in Section II. The Build Alternatives that were investigated in detail are shown on Exhibits 5, 6, and 7. Wetland impacts occur sporadically along the entire length of the project, and all detailed study alternatives (except the No-Build Alternative) were found to have some wetland impacts.

Following the publication of the DEIS, the public hearing, review agency comments and additional analysis and minor alignment refinements, Southern Segment Alternative S3, Central Segment Alternative C2(a), and Northern Segment Alternative N1 have been identified as the Preferred Alternatives in the FEIS. Exhibit 8 shows the Preferred Alternatives superimposed on an aerial photograph base map.

5.1.1 No-Build Alternative

The No-Build Alternative is defined as no roadway improvements other than normal pavement maintenance or localized upgrades. As such, this alternative would avoid wetland impacts. Project development also included consideration of transportation system management measures such as signal timing and designated use lanes, and non-highway alternatives including mass transit, passenger rail and inter city bus, and freight rail options. These alternatives also would avoid wetland impacts.

5.1.2 Build Alternative

The Preferred Alternative for each of the three project segments is described in detail in Section II. Section 4.2.2.6 discusses the Preferred Alternative wetland impacts in detail. Total impacted acres of

wetland for the Preferred Alternative is 50.0 acres (20.2 ha). In the South Segment, Preferred Alternative S3 would impact 6.1 acres (2.5 ha) of wetland. In the Central Segment, Alternative C2(a) would impact 15.2 acres (6.2 ha) of wetland. In the North Segment, Alternative N1 would impact 28.8 acres (11.7 ha) of wetland. A description of the wetland functions and impacts associated with other Build Alternatives is found in Section IV.

5.2 DETERMINATION OF NO PRACTICABLE ALTERNATIVE

The wetland impacts, as well as the other impacts of each detailed studied alternative are discussed in detail in Section IV, and these impacts are summarized in Tables 2.3.3, 4.2.2.2, 4.2.2.3, 4.2.2.4, and 4.2.2.6. The following discussion of each reasonable alternative provides the basis for the conclusion that there is no practicable alternative to the wetland impacts associated with the Preferred Alternatives.

5.2.1 No-Build Alternative

The No-Build Alternative does not meet the purpose and need for this project and does not address the numerous deficiencies of the existing facility outlined in Section I. There would be no increase in traffic capacity, or improvement of traffic flow characteristics or route safety. There would be no beneficial impacts on regional economic development. For these reasons, the No-Build Alternative is not considered a practicable alternative to avoid the wetland impacts of the Preferred Alternatives.

Traffic system management does not meet the purpose and need for this project and does not address the numerous deficiencies of the existing facility outlined in Section 1. Traffic system management measures are generally applicable only in larger urban areas where traffic signal timing, designated use lanes, and other measures can have a substantial effect. Such measures are not reasonable for this project with smaller communities separated by rural areas. For this reason it is not considered a practicable alternative to avoid the wetland impacts of the Preferred Alternatives.

Non-highway alternatives including mass transit, passenger rail, and inter city bus do not meet the purpose and need for this project and do not address the numerous deficiencies of the existing facility outlined in Section 1. Mass transit is typically considered an effective transportation solution in larger urbanized areas with a population of more than 200,000 (FHWA Technical Advisory T 6640.8A). Light rail and commuter rail transit service generally involve from 2,000 to 20,000 passengers per hour. Mass transit, passenger rail, and inter city bus are not practical for serving existing and future traffic demand within the STH 26 corridor due to the density and size of the population in the communities served along the route, and the rural agricultural nature of the surrounding area. For these reasons mass transit, passenger rail, and inter city bus are not considered practicable alternatives to avoid the wetland impacts of the Preferred Alternative.

Freight rail lines along STH 26 between Janesville and Fort Atkinson, and between Clyman Junction and Fond du Lac, have been previously abandoned and are now developed as recreational trails. There are no federal or state programs to finance the construction of new freight rail lines. There are multiple rail track corridors that exist and can handle additional freight rail capacity between the industrial Fox River Valley area, through the Milwaukee area, and into the Chicago area where numerous service connections can be made with major east-west nationwide rail lines. A new freight rail line along STH 26 could not duplicate the numerous service line connections to the east-west rail lines that currently exist, and the service would not be competitive with the existing services. For these reasons freight rail is not considered a practicable alternative to avoid the wetland impacts of the Preferred Alternative.

5.2.2 Build Alternatives

The preferred build alternative presented in Section 5.1.2 has the least overall impacts for the reasons discussed below, and all of the other build alternatives were not found to be as practicable. Accordingly, although the Preferred Alternative does have wetland impacts, there are no practicable alternatives that have less overall impacts.

5.2.2.1 South Segment

Alternative S2 would affect approximately 5.7 acres (2.2 ha) of wetlands, which is very similar to the impacts for the Preferred Alternative S3 (6.1 ac; 2.5 ha). However, Alternative S2 was eliminated from further consideration because it lacks several transportation and other benefits that Alternative S3 provides. Among these are the following:

- The Preferred Alternative S3 is 0.6 miles (1.0 km) shorter in total length than Alternative S2. Accordingly, it requires about 30 acres (12 ha) less total land, and 22 acres (9 ha) less farmland, than Alternative S3 Modified.

- Alternative S2 impacts two more farm parcels than Preferred Alternative S3. Overall, Alternative S2 will have a greater farmland impact as its alignment severs farms on a diagonal, thereby leaving more difficult pie-shaped remnants for farming operations.

- Alternative S2 would require an S-curve alignment between the north and south Milton interchanges. Preferred Alternative S3 would eliminate this and provide a more direct north-south route with a more desirable geometric alignment and fewer curves.

- The Alternative S2 alignment allows development east and west of the roadway with limited access across the roadway. The location of the Preferred Alternative S3 alignment adjacent to the Storrs Lake Wildlife Area will function as a buffer between urban development and the wildlife area. Alternative S3 will contain existing and future urban development from both the city and town of Milton entirely west of the roadway and open space/hunting grounds (Storrs Lake Wildlife Area) east of the roadway.

- The Wisconsin Department of Natural Resources (WDNR) does not oppose the location of a roadway corridor (Preferred Alternative S3) adjacent to the Storrs Lake Wildlife Area. They have commented that the corridor eliminates the undesirable effects of increased urban development in the area. In addition, a depressed roadway section for Alternative S3 along the boundary of the wildlife area would minimize aesthetic and noise impacts.

- Alternative S2 has 51 relocations as compared to 17 relocations for Preferred Alternative S3.

- The Alternative S2 total construction and real estate costs are approximately $3 million more than Preferred Alternative S3. Alternative S3 is expected to have less future maintenance costs.

5.2.2.2 Central Segment

Alternative C1

Alternative C1 was eliminated from further consideration because it lacks several transportation and other benefits provided by other Central Segment alternatives:

- Alternative C1 has greater farmland (438 acres, 177 ha) and wetlands (24 acres, 10 ha) impacts than Alternatives C2, C2(a), and C2(b) (approximately 350 acres (142 ha) and 20 acres (8 ha)).

- Some of the farmland associated with Alternative C1 is outside Jefferson's Urban Service Area boundaries and would therefore have a longer-term impact on agricultural lands.

- Alternative C1 received little support from the general public or local officials.

Alternatives C2, C2(a), C2(b), and C3

Alternatives C2, C2(a), and C2(b), and in particular Alternative C2(a), are preferred as they provide transportation and other benefits that Alternative C3 does not provide. Among these are the following:

- Traffic flow is generally more oriented to USH 18 to the west to Madison and STH 89 to Lake Mills than it is to USH 18 to the east towards Helenville. Alternatives C2, C2(a), and C2(b) facilitate this desired westerly traffic flow and allow STH 89 to be rerouted along the new and safer West Bypass. The existing STH 89 route is an old curvy county highway route. The existing STH 89 could then revert back to a local road.

- Three schools (high, middle and elementary) are located just east of the Crawfish River. The Jefferson Performing Arts Center with regularly scheduled performances is located at the high school. The County Fairgrounds has over 150 scheduled events throughout the year, some which attract upwards of 40-50,000 daily visitors. These land uses generate substantial daily and special event traffic and truck volumes from outside the City of Jefferson, and would be best served by Alternatives C2, C2(a), and C2(b).

- Alternatives C2, C2(a), and C2(b) eliminate the safety concerns over pedestrian circulation in and around the St. Coletta properties east of Jefferson, and eliminate potential disruption to the organization's operational characteristics and rural setting.

- Alternatives C2, C2(a), and C2(b) would have access at USH 18 with a diamond interchange. Alternative C3 would access at USH 18 with a partial cloverleaf interchange to better address the pedestrian safety for attendees of St. Coletta. A diamond interchange is more easily understood by the traveling motorist, and requires less land to construct than a partial cloverleaf interchange.

- USH 18 on the west side of the city has an existing 80-foot right-of-way width as compared to 66 feet on the east side of the city. The wider width on the west side permits safer movement of traffic between the downtown area and the bypass, and more easily accommodates future traffic growth and roadway improvements without affecting abutting properties.

- Alternatives C2 and C2(b) impact about half the amount of wetland as compared to Alternative C3 (19 acres (8 ha) versus 31 acres (13 ha)). The Preferred Alternative C2(a) alignment as modified since the publication of the DEIS further has wetland impacts of 15.2 acres (6.2 ha).

- The Alternatives C2, C2(a), and C2(b) proposed bridge crossing of the Crawfish River would have no effect on normal flows occurring within the stream banks, but would have a minimal impact on the adjacent floodplain. Alternative C2(a) is expected to raise the 100-year flood height by about 0.08-foot (1-inch). In addition, the location of a near west interchange on USH 18 within the floodplain of the Crawfish River provides the opportunity to purchase access and development rights to help control future development in the floodplain and river area.

- Alternatives C2, C2(a), and C2(b) and Alternative C3 each require about the same total amount of land, about 417 acres (169 ha). Although Alternatives C2, C2(a), and C2(b) require about 20 acres (8 ha) more farmland, Alternative C3 overall would have a greater farmland loss as its alignment severs farms on a diagonal, thereby leaving more difficult pie-shaped remnants for farming operations.

- Alternative C3 splits the City of Jefferson's north industrial park making future travel and traffic circulation within the park more difficult. Its alignment severs the park on a diagonal, thereby leaving pie-shaped parcels that would be more difficult to develop.

- There is a slightly higher rural residential density east of Jefferson than west. As a result, Alternatives C2, C2(a), and C2(b) would have eight fewer residential relocations than Alternative C3.

- Alternatives C2, C2(a), and C2(b) are about 0.5 mile (0.8 km) shorter than Alternative C3.

In addition, the Preferred Alternative C2(a) possesses several advantages over Alternatives C2 and C2(b), and was selected as the Preferred Alternative based on the following concerns and support from review agencies:

- With wetland impacts of about 15.2 acres (6.2 ha), it would require about 4 acres (1.6 ha) less wetland than Alternatives C2 and C2(b).

- The geometric characteristics of its interchange with USH 18 allow for better compatibility with the local road system and avoids potential conflicts with a nearby school.

- The location of its interchange with USH 18 would require the landlocking of a parcel located between the proposed bypass and the Crawfish River, thereby providing an opportunity for a wetland mitigation (restoration) project in that parcel, as well as limiting the potential for secondary growth near the interchange.

- Alternative C2(a) is supported by the Town of Jefferson and the City of Jefferson.

Alternative C4

Alternative C4 east of the City of Jefferson was eliminated from further consideration because it lacks several transportation and other benefits provided by other alternatives:

- It impacts the greatest number of wetland acres of all alternatives, 55 acres (22 ha), a large proportion of which would be medium-high functioning floodplain forest.

- Traffic circulation under this alternative is not desirable from the east since traffic on USH 18 between the City of Jefferson and the interchange on STH 26 would be routed past the St. Coletta establishment through a narrow right-of-way section.

- Alternative C4 received little support from the general public or local officials.

5.2.2.3 North Segment

Alternative N2 would affect approximately 20.7 ac (8.4 ha) of wetlands. Although it would affect less wetland area than the Preferred Alternative N1, it was eliminated from further consideration because it lacks several transportation and other benefits that Alternative N1 provides. Among these are the following:

- From a state and regional perspective, Alternative N2 is 2.1 miles (3.4 km) longer than Alternative N1.

- It is estimated that Alternative N2 would remove and relocate approximately 25 percent fewer total trips, and about 22 percent fewer truck trips, from the local road system than Alternative N1.

- Alternative N2 would provide a bypass route around only one half of the city. Alternative N1, along with the Hwy 16 bypass corridor, would provide a bypass route around three quarters of the City of Watertown.

- Alternative N2 would not provide an opportunity for STH 19 traffic to bypass the City of Watertown resulting in more traffic, particularly trucks, passing through the downtown.

- Alternative N2 would not provide an opportunity for traffic generated from Watertown's west industrial park to bypass the city, resulting in more traffic, particularly trucks, along existing STH 26 (Church Street) and passing through the Bernard Street intersection.

- The proposed STH 16 Oconomowoc Bypass is expected to increase traffic volumes along the existing STH 16 corridor in the northeast portion of Watertown. Alternative N2 combines STH 26 traffic with STH 16 traffic within the existing STH 16 corridor and jeopardizes the long-term ability of the alternative to adequately handle the increased traffic volumes and associated operational characteristics. Alternative N1 does not combine STH 26 traffic with STH 16 traffic within the existing STH 16 corridor.

- Although Alternative N1 impacts more wetland, about 28.8 acres (11.7 ha), as compared to Alternative N2, about 20.7 acres (8.4 ha), Alternative N2 would bisect a 172 acre (70 ha) contiguous forested wetland complex with high vegetation diversity and high functional value. The bisecting of this large site by Alternative N2 was a concern identified by environmental review agencies.

- Alternative N2 would impact about 415 acres (168 ha) of land currently being used as farmland as compared with 738 acres (299 ha) for Alternative N1. Alternative N1 would impact just slightly more farmland outside Watertown's Urban Service Area boundaries than Alternative N2 (280 acres

(113 ha) versus 205 acres (83 ha)). Development of farmland within the urban service area is anticipated in the long-term (15 to 20 years) with or without the construction of a highway.

- Alternative N2 would require a roadway structure over both the Canadian Pacific Railroad tracks and the Rock River. Preferred Alternative N1 would require a roadway structure only over the Rock River.

- Alternative N2 would require 8 more residential and business relocations than Preferred Alternative N1.

- Alternative N2 would traverse a 125-acre (51-ha) buffer zone for the Concord Power Station site located southeast of Watertown, whereas Preferred Alternative N1 would not impact this area.

- An estimated construction and real estate cost for Alternative N2 is $79 million (2001 dollars), compared with $74 million for Preferred Alternative N1. When viewed in conjunction with future improvement costs necessary for STH 16 in the northeast portion of Watertown, an estimated cost for Alternative N2 is $83.7 million, compared with $82.5 million for Preferred Alternative N1.

5.3 MEASURES TO MINIMIZE HARM

Avoidance and minimization of wetland losses were important considerations throughout the scoping and alternative development process and in the selection of the Preferred Alternatives, as discussed in Section II. In accordance with various state and federal agency policies and mandates for wetland preservation, following is a summary of wetland mitigation strategies for the STH project.

5.3.1 Avoid Wetlands

Because of the amount of wetland along the STH 26 corridor and the proximity to the highway, it is not possible to completely avoid wetland encroachment. The locations of the Build Alternatives, including the Preferred Alternatives, were developed to avoid wetlands where practical in view of other impact trade offs, including farmland acquisition and severances and residential and business relocations.

5.3.2 Minimize Wetland Impacts

Planning for the proposed project includes all practicable measures to minimize harm to the wetlands that may result from the project. Measures that will be taken during final design to minimize wetland impacts include the following:

- Water quality impacts from silt and sedimentation will be minimized through the strict adherence to erosion control measures as required by WisDOT's *Specifications for Road and Bridge Construction*.

- Additional measures that will be considered include use of steeper embankment slopes, narrowed median or use of retaining structures.

5.3.3 Conceptual Wetland Mitigation Plan

Although wetland encroachments have been avoided and minimized to the extent practical, the Build Alternatives will acquire wetlands. To compensate for unavoidable wetland impacts from the project,

mitigative measures will be employed in coordination with WDNR, USACE, USEPA, and USFWS. The conceptual wetland mitigation plan is discussed in detail in section 4.6.5.3 and is summarized below.

- The long-term goal of the conceptual wetland mitigation plan for this project is to provide functional replacement of the types of wetlands unavoidably lost for a no net-loss of wetlands. A wetland delineation was performed along the Preferred Alternatives to calculate actual wetland impacts and determine the compensatory wetland mitigation acreage required. Wetlands impacted are expected to be replaced at a 1.5:1 ratio with additional or alternative arrangements according to the WisDOT/WDNR Cooperative Agreement.

- Wetland replacement will be pursued by wetland restoration, wetland creation, or debiting a wetland mitigation bank site. Compensatory mitigation will be pursued preferably by restoring previously drained and/or altered wetlands within the same watershed as the Preferred Alternative. A wetland mitigation site adjacent to the project corridor would replace the wetland functions and values impacted by the project within the same watershed.

- A wetland mitigation site search was completed in January 2003 in cooperation with the WDNR, USACE, USEPA, USFWS, and FHWA to locate potential wetland mitigation sites within the watershed. Seventeen potential wetland mitigation sites were identified and evaluated (see Table 4.6.5.3). Nine potential mitigation sites meet the technical requirements for compensatory wetland mitigation. The sites are currently in agricultural uses.

- Restoration efforts will focus on the restoration of altered hydrology and soils through topographic manipulations and revegetation through natural regeneration from the seedbanks, wetland salvage or seeding.

- To determine the success of the restored wetlands, the detailed design will include a monitoring and corrective action/management program in accordance with the WisDOT/WDNR Cooperative Agreement and COE 404 permit requirements.

- If the development of a wetland mitigation site is found to be not feasible, the wetland impacts from the project will be mitigated at an existing wetland mitigation bank site. Mitigation ratios will be in accordance with the "WisDOT Wetland Mitigation Banking Technical Guideline" which establishes a program for compensatory wetland mitigation banking for WisDOT projects. The nearest operating mitigation bank site is the Prince's Point Mitigation Bank, located in Jefferson County, Wisconsin.

5.4 WETLAND FINDING

In summary, the Preferred Alternative will provide the best long-term transportation service for the communities and counties served by the project corridor. It also provides the best balance among social, economic, and natural resource impacts, and is fully consistent with local transportation and land-use objectives.

Based on the above considerations in accordance with Presidential Executive Order 11990, *Protection of Wetlands*, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measure to minimize harm to wetlands that may result from such use.